

FORM PTO-1390
(REV 5-93)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ATTORNEY DOCKET NO.
100210-00001

TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

DATE: June 19, 2000

U.S. APPLN. NO.
(IF KNOWN, SEE 37 C.F.R. 1.5)

09/581513

INTERNATIONAL APPLICATION NO.
PCT/FR98/02761

INTERNATIONAL FILING DATE
December 17, 1998

PRIORITY DATE CLAIMED
December 19, 1997

TITLE OF INVENTION: MULFIFUNCTION PLATE FOR SURFACE CLEANER

APPLICANT FOR DO/EO/US: BRISON Marc

1. XX This is a FIRST submission of items concerning a filing under 35 U.S.C. 371.
(THE BASIC FILING FEE IS ATTACHED)
2. This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371.
3. This express request to begin national examination procedures [35 U.S.C. 371(f)] at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. A proper demand for International Preliminary Amendment was made by the 19th month from the earliest claimed priority date.
5. XX A copy of the International Application as filed [35 U.S.C. 371(c)(2)]
 - a. is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. has been transmitted by the International Bureau.
 - c. is not required, as the application was filed in the United States Receiving Office (RO/US).
6. A translation of the International Application into English [35 U.S.C. 371(c)(2)].
7. Amendments to the claims of the International Application under PCT Article 19 [35 U.S.C. 371(c)(3)]
 - a. are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. have been transmitted by the International Bureau.
 - c. have not been made; however, the time limit for making such amendments has NOT expired.
 - d. have not been made and will not be made.
8. A translation of the amendments to the claims under PCT Article 19 [35 U.S.C. 371(c)(3)].
9. An oath or declaration of the inventor(s) [35 U.S.C. 371(c)(4)].
10. A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 [35 U.S.C. 371(c)(5)].

Items 11 - 16 below concern other document(s) or information included:

11. An Information Disclosure Statement under 37 C.F.R. 1.97 and 1.98.
12. An assignment document for recording. A separate cover sheet in compliance with 37 C.F.R. 3.28 and 3.31 is included.
13. A FIRST preliminary amendment.
A SECOND or SUBSEQUENT preliminary amendment.
14. A substitute specification.
15. A change of power of attorney and/or address letter.
16. XX Other items or information:
CHECK NO.
Drawings (4 sheets)

GEO:sah

Multifunction plate for surface cleaner

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The invention relates to a multifunction plate for a surface cleaner.

5 This plate serves as a support, for example, for a woven or non-woven textile cover that is used to clean and rub surfaces ; the plate is mounted on the end of a sleeve, stick or handle, advantageously with the help of a spherical joint, as seen, in particular, in document US-A 4,070,726. Said flexible piece of
10 textile has to be fixed to this support removably so that it can easily be replaced and wrung out, and it must be held firmly thereon.

 There is a known solution which consists in producing a cover formed of a rectangular base, the two short sides of which
15 are folded to constitute fixing pockets designed to cap the ends of the support, which support is formed in two half-portions pivoting about a pin to enable the support to be introduced into the textile pocket and to be extracted therefrom.

 Other systems for holding a textile on a support take the
20 form of flexible pieces, of the towel holder type, for example, disposed on top of the plate, and the textile, which is folded back on its four sides is thus held so as to envelop its support, as, for example in document US-A 4 852 210.

 There also exist support plate type devices capable of
25 receiving elasticated covers but, to position them, the plate is usually of a trapezoidal shape.

 Finally, more simply, it is known to be possible to fix to the base of a support a textile strip on which can be mounted a self-gripping textile panel.

30 Each of these fixing methods thus necessitates a support of a particular type that is adapted thereto, and these different systems are not always very easy to handle.

 The invention offers a novel solution to these difficulties thanks to a general-purpose plate, capable of receiving all types
35 of surface cleaner, it being easier, moreover, for the user to replace and fix them.

The invention thus relates to a multifunction plate for a surface cleaner that is constituted by a plate of a generally rectangular shape, provided with gripping and manipulating means, as well as with means for securing pieces of textile, said gripping and manipulating means, between, on one hand, the broom-stick or the holding handle and, on the other hand, a central rod connected to the plate, being interchangeable, and a plurality of means for fixing different types of pieces of textile being provided, said means being :

- 10 - on the lower base of the plate, plane portions for self-gripping strips ;
- on the upper face of the plate, at least clamping mechanisms co-operating with windows or cavities in the plate to hold all types of pieces having turned-back edges, and holes
- 15 suitable for press stud systems for fixing clips.

According to a first main feature of the invention, the interchangeable gripping and handling means include a joint pivoting on the rod which is equipped with two flexible strips for detaching the stick or the handle from the plate.

- 20 According to another special feature of the invention, the clamping mechanism is constituted by a specially shaped strip co-operating with at least a central window and two lateral cavities provided on the upper face of the plate, the strip being shaped to form an arch , the ends of the lateral wings of which
- 25 are placed in the cavities, a system for clipping the strip in the central window being provided in the centre of the strip.

- 30 Further special features and advantages of the invention will emerge from the following description of exemplary forms of embodiment, with reference to the annexed drawings, in which :

- Figs. 1 and 2 are perspective views of the upper face and of the lower face, respectively, of the multifunction plate ;
- Fig. 3 is a perspective view of a clamping strip ;
- Figs. 4 and 5 are a cross-sectional view and a front view,
- 35 respectively, of a system for clipping a broom-stick (left-hand portion) or a handle (right-hand portion) ;

- Fig. 5b is a perspective view of an alternative joint design ;

- Figs. 6, 7 and 8 present a cross-sectional view and perspective views, respectively, of an alternative embodiment of a specially shaped pin and of a joint ;

- Fig. 9 is a schematic cross-sectional view of a sponge support means ;

- Figs. 10a and 11 are cross-sectional and top views, respectively, of an alternative embodiment of the clamping strip ;

- Fig. 10b is a cross-sectional view of an alternative embodiment of a pinching type clamping system.

The plate shown in the figures takes the form of a plate 1 of a generally rectangular shape, pierced in its centre by a through opening 2. On either side of the latter, on upper face 3 of the plate, are provided two specially shaped projections, or heels 4 between which extends a rod 5 for fastening a broom-stick, not shown. Lower base 6 (Fig. 2) of the plate contains recesses 7 , opposite projections 4. On the sides of the base, the recesses are framed by two plane longitudinal portions, which serve to receive self-gripping strips 8.

An oval hole 16 passes through plate 1 at each end. Between the hole and the neighbouring heel 4, the upper face 3 of the plate has a central window 9 and two lateral cavities 10 which, in the case illustrated, have a rectangular profile.

The window and the cavities thus equipping the upper face of the plate, on either side of heels 4, serve to position a clamping mechanism constituted by a strip 11, shown in figure 3. This strip, which is advantageously made of plastic, is shaped to form an arch, and the lower faces of the ends of its lateral wings 12 are provided with projections 13 designed to fit into cavities 10. Two resilient bars 14 ending in toes 15 extend perpendicularly to the central portion of the strip, on its concave side. By pinching the bars, it is easy to introduce them into central window 9. Thanks to toes 15, the clamping bar can be clipped onto the upper face of plate 1. Owing to the elasticity of the strip, end projections 13 exert a certain pressure on the

plate, which makes it easy to hold the flaps of a textile cover of any type, with the rectangular plate thus making it possible to receive surface cleaners of any cut.

It is extremely simple to handle the clamping strip, and each one can further be mounted in any direction, on one or the other of the ends of the plate.

In addition, central rod 5, between the two heels 4, makes it possible to remove rapidly a conventional spherical joint for a broom-stick, or again a simple handle, when it is wished to use the plate without its broom-stick.

Figs. 4 and 5 show, precisely, a system for the simple clipping of a broom-stick 17 (left-hand portion) or a holding handle 18 (right-hand portion), onto said central rod 5. The clipping system uses, between the broom-stick or the handle and the rod, a joint 19 pivotally mounted on rod 5, which is equipped, at its centre, with two flexible strips 20 capable of being brought towards one another by pinching in the area of base 21 of the strips to detach the broom-stick or the handle from the joint. In their central portions, strips 20 bear toes 22 capable of sliding in positioning guides 23, which form part of a sleeve 24 for supporting broom-stick 17 or handle 18. It will be appreciated, upon referring to Fig. 6, that pinching the strips at their base 21 causes toes 22 to escape from guides 23, which makes for quick interchange between the two holding devices.

Fig. 5b shows an alternative embodiment of joint 19, the outer border of which is provided with small clipping toes 35 enabling the handle or the broom-stick to be locked in storage position. Advantageously, opposite each toe, a hole 36 is provided in the wall of the joint, which increases the flexibility of the latter and makes it easier to accommodate snap fastening onto the toe.

According to yet another alternative, simplified, embodiment, not shown, of the gripping and manipulating means of the plate, there is provided a threaded socket, fixedly snap fastened to the joint, onto which socket is screwed either the broom-stick or the handle. It is also possible to have a handle

that forms the socket itself, which is snap fastened, and to which the broom-stick can be screwed.

Similarly, a handle (or broom-stick) connection can be provided that is fixed in relation to the plate for use after the fashion of a « taloche », or again a connection can be provided with one possible rotation about the axis or two possible rotations about the axis and the joint.

According to another alternative embodiment, illustrated in figures 6, 7 and 8, fixed central rod 5 is replaced by a specially shaped pin 29 that can be displaced longitudinally in relation to plate 1, between the two heels 4, the pin being return biased by a spring 25. It will be noted from Fig. 8 that the pin is provided with flats 25, orientated vertically in relation to the upper face of the plate. A joint 27, shown in figure 7, is specially shaped at its lower portion and is provided with cut-out portions 28, spaced apart like flats 26. To fit the plate onto pin 29, it suffices to move the latter against the bias of spring 25 so that the flats are located opposite the cut-out portions and then, once the joint is in place, the pin is released and moves, biased by the spring, to lock the plate. Joint 27, as in the preceding case, serves as a support for a broom-stick or a holding handle. In one alternative embodiment, not shown, use could be made of a clip-on pin in place of the specially shaped pin.

Even more simply, it could be contemplated using a fixed handle that could be directly clipped onto central rod 5 of the plate.

It can thus be seen that the multifunction properties of the plate apply not only to the fixing of the pieces of textile but also to that of its gripping and handling means.

As to the pieces designed for cleaning properly speaking, fitted onto the multifunction plate, apart from the clamping system described earlier with reference to Fig. 3, it is also possible to take advantage of self-gripping strips 8 to fix a habitually used rectangular cleaning pad directly to the plate.

Finally, the two oval holes 16 can receive a conventional press stud for a cover equipped with corresponding fixing clips.

The oval shape of the holes makes it easier to insert the press stud, and the larger axis of the oval hole is advantageously orientated longitudinally of the plate. Alternatively, the holes could also be square, hexagonal or of any shape that is not perfectly circular as is a press stud.

To facilitate the introduction of the press stud, arrangements can be made to provide, on at least one side, one or two walls that are easily deformable, in a preferential direction, so as to reduce the effort that the user has to make in order to clip the press stud into the plate or to unclip it therefrom. The flexibility of the structure thus obtained further makes the useful life of the product dependable. In rest condition, the dimension of the hole along the longitudinal axis of the plate is greater than the diameter of the metal press stud, the perpendicular dimension being smaller than said diameter.

Upon fitting, the walls are deformed until the dimension of the hole is equal to the diameter of the press stud, and then these walls close together, at the same time exerting a force on the press stud to ensure that the textile cover is securely held in place during use.

This procedure remains valid in the case of a polygonal hole.

These holes, which pass right through plate 1, also serve to clip a sponge support 30, such as the one illustrated in Fig. 9, under lower base 6 of the plate.

Finally, Figs. 10a and 11 illustrate an alternative embodiment of clamping strip 11 shown in Fig. 3. In this alternative embodiment, strip 11 has a central cut-out portion 31, framed by two flexible longitudinal borders 32. Two rigid levers 33 extend into the cut-out portion from the ends of the strip, in the vicinity of projections 13. Under each lever, substantially in the middle thereof, is provided a small rib 34 which extends slightly below the plane formed by borders 32. Finally, beneath each border 32, there are two small resilient bars 14, which are designed to penetrate two adjacent central windows 9 (instead of the single window shown in figure 1) of plate 1, to lock the clamping strip. When the latter is in place on

the plate to hold a piece of textile, ribs 34 bear against upper face 3 of the plate. To unlock said strip, it is easy to push on levers 33 and, thanks to the pivot points formed by ribs 34, the ends of strip 11 are easy to disengage from lateral cavities 10 of plate 1 (Fig. 1).

According to an alternative embodiment illustrated in figure 10b, the clamping mechanism is provided by two L-shaped rigid levers 33 mounted on strips 11. In the right-hand part of the figure, it can be seen that the hollow part of the lever bears on a bridge member 37 integral with the plate. When it is swung in the direction of the arrow about point X, end projection 13 vacates the space beneath the bridge member, enabling the textile to be put into place. In the left-hand portion, projection 13 of lever 33 pinches the textile against the bridge member.

Again according to yet another alternative embodiment, not shown, clamping strip 11 could be designed as a « bell type » strip capable of being actuated rapidly in its centre in order to disengage the projections from their cavities.

CLAIMS

1. Multifunction plate for a surface cleaner, constituted by a plate (1) of a generally rectangular shape, provided with gripping and manipulating means, as well as with means for securing pieces of textile, characterised in that said gripping and manipulating means 5, 19, 27, 29), between, on one hand, the broom-stick (17) or the holding handle (18) and, on the other hand, a central rod (5) connected to the plate (1), are interchangeable, and in that there are a plurality of means for fixing different types of pieces of textile, said means being at least :

- on the lower base (6) of the plate, plane portions for self-gripping strips (8);

15 - on the upper face (3) of the plate, at least clamping mechanisms (11) co-operating with windows or cavities (9, 10) in the plate (1) to hold all types of pieces having turned-back edges, and holes (16) suitable for press stud systems for fixing clips.

2. Multifunction plate according to claim 1, characterised
20 in that the interchangeable gripping and manipulating means
include a joint (19) pivoting on the rod (5) which is equipped
with two flexible strips (20) for detaching the stick (17) or the
handle (18) from the plate.

3. Multifunction plate according to claim 2, characterised
25 in that the strips (20) bear toes capable of sliding in positioning
guides (23) that form part of a sleeve (24) for supporting the
broom-stick (17) or the handle (18).

4. Multifunction plate according to claim 2, characterised in that the outer border of the joint (19) is provided with clipping toes (35) and, opposite the toes, with holes provided in the wall to increase the flexibility of the latter.

5. Multifunction plate according to claim 1, characterised in that the interchangeable gripping and manipulating means include a joint (27) that pivots about a specially shaped pin (29) displaceable longitudinally in relation to the plate (1).

6. Multifunction plate according to claim 5, characterised in that the articulation (27) is provided with cut-out portions

7. Multifunction plate according to claim 1, the interchangeable gripping and manipulating means of which are constituted by a joint (19) pivoting on a central rod (5) connected to the plate (1), characterised in that a threaded socket onto which is screwed the broom-stick (17) or the handle (18) is fixedly snap fitted onto said joint (19).

9. Multifunction plate according to claim 1, characterised in that the lower base (6) is provided with cavities (7) framed by plane, longitudinal portions serving to receive the self-gripping strips (8).

11. Multifunction plate according to claims 1 and 10, characterised in that the strip (11) is specially shaped to form an arch, the ends of the lateral wings (12) of which are placed in the cavities (10), and in that a system (14, 15) for clipping the strip in the central window (9) is provided in the centre of the strip.

13. Multifunction plate according to claim 10, characterised in that two rigid levers (33) extend into a cut-out portion (31) of the strip (11) and bear, via a rib (34), on the upper face of the plate.

35 14. Multifunction plate according to claim 10,
characterised in that two rigid levers (33) are L-shaped and

mounted on strips (11) and come to bear against a bridge member (37) integral with the plate.

15 15. Multifunction plate according to claim 13, characterised in that the clipping system of the strip (11) is constituted by two resilient bars (14) beneath each of the borders (32) of the strip, which penetrate two adjacent central windows (9) provided in the plate (1).

10 16. Multifunction plate according to claim 10, characterised in that the clamping strip (11) is designed as a bell type strip which is actuated in its centre for rapid disengagement of its end projections (13) from the cavities (10).

17. Multifunction plate according to claim 1, characterised in that the holes (16), suitable for press stud systems, are provided on the ends of the plate (1).

15 18. Multifunction plate according to claim 1, characterised in that the holes have an oval profile orientated longitudinally of the plate (1).

20 19. Multifunction plate according to claim 1, characterised in that the walls of the holes (16) on at least one side are easily deformable to facilitate the clipping of the press stud.

20 20. Multifunction plate according to claim 1, characterised in that a sponge support (30) is clipped into the holes (16) under the lower base (6) of the plate.

1000 999 998 997 996 995 994 993 992 991 990 989 988 987 986 985 984 983 982 981 980

1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010

15 Application to surface cleaners.

Figure 1.

FIG. 8

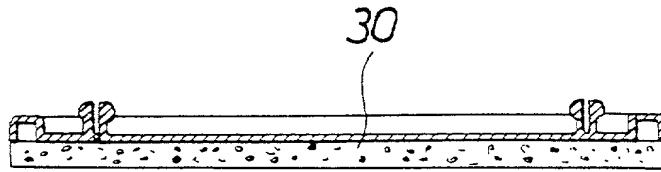


FIG. 9

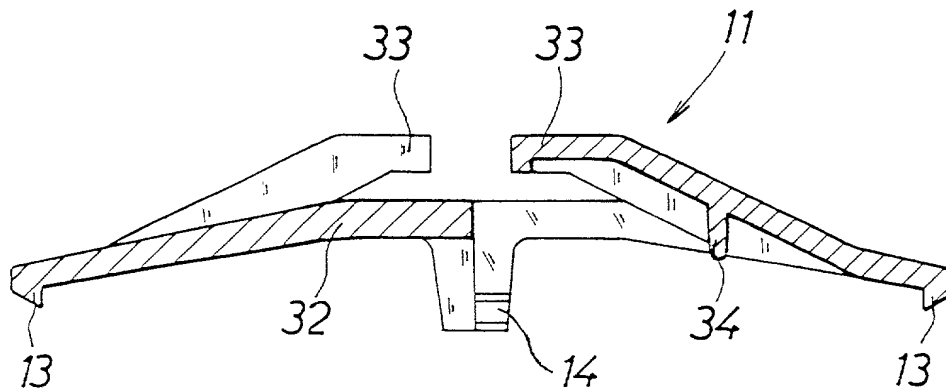


FIG. 10 a

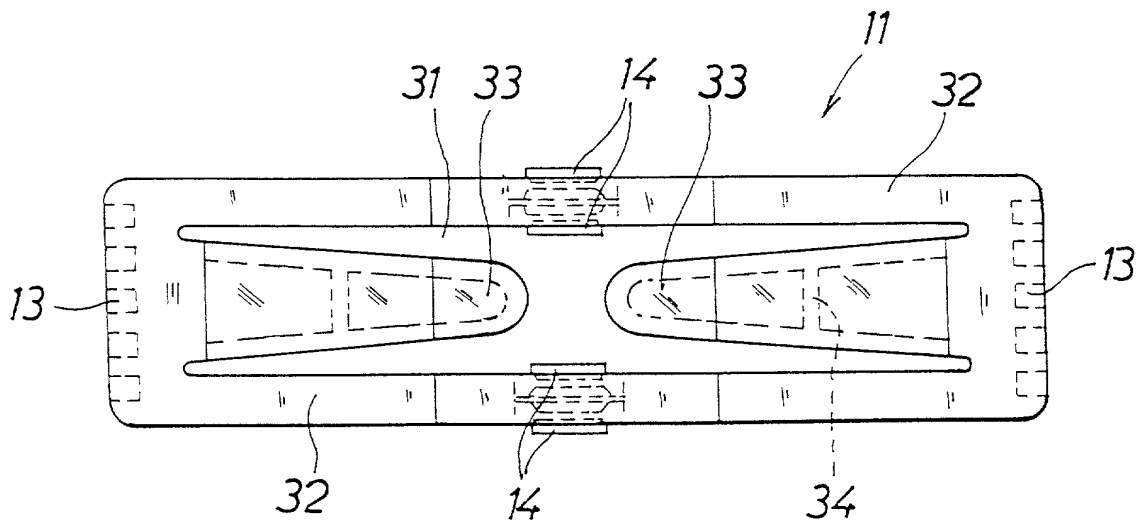


FIG. 11

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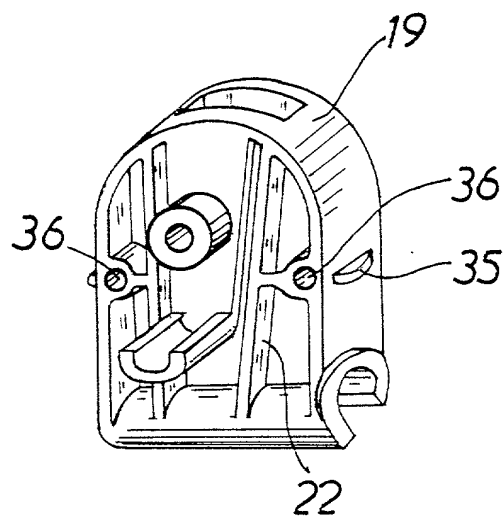


FIG. 5b

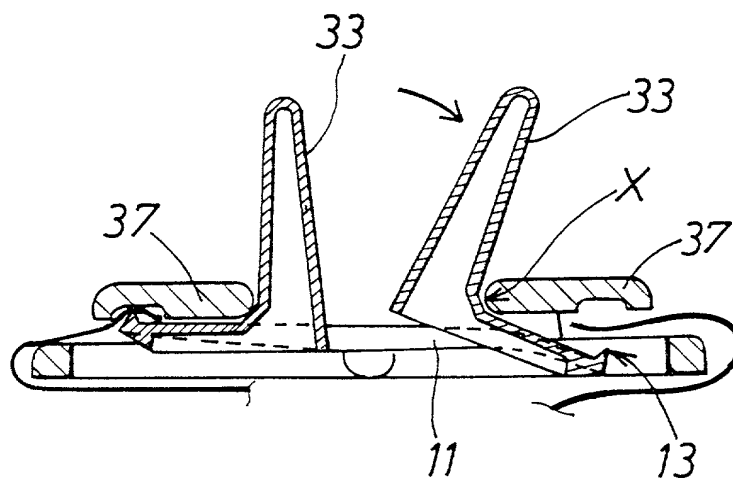


FIG. 10b

Declaration For U.S. Patent Application

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled
(Insert Title) MULTIFUNCTION PLATE FOR SURFACE CLEANER

the specification of which is attached hereto unless the following box is checked:

☐ was filed on _____ as PCT International Application
Number _____ and was amended on _____
and/or was filed on June 19, 2000 as United States Application
Number 09/581,513 and was amended on _____

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. §1.56.

I hereby claim foreign priority benefits under 35 U.S.C. §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below any foreign application for patent or inventor's certificate or PCT International Application having a filing date before that of the application(s) for which priority is claimed:

(List prior foreign applications. See note A on back of this page)	<u>97 16121</u>	<u>France</u>	<u>19/12/97</u>	Priority Claimed
	(Number)	(Country)	(Day/Month/Year Filed)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	_____	(Country)	(Day/Month/Year Filed)	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____	(Number)	(Country)	(Day/Month/Year Filed)	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____	(Number)	(Country)	(Day/Month/Year Filed)	<input type="checkbox"/> Yes <input type="checkbox"/> No

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below.

_____ (Application Number)	_____ (Filing Date)
_____ (Application Number)	_____ (Filing Date)

(See Note B on back of this page)

☐ See attached list for additional prior foreign or provisional applications.

I hereby claim the benefit under 35 U.S.C. §120 of any United States application(s) or §365(c) of any PCT International application(s) designating the United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior application(s) (U.S. or PCT) in the manner provided by the first paragraph of 35, U.S.C. §112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. §1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(List prior U.S. Applications or PCT International applications designating the U.S.)	_____ (Application Serial No.)	_____ (Filing Date)	_____ (Status) (patented, pending, abandoned)
	_____ (Application Serial No.)	_____ (Filing Date)	_____ (Status) (patented, pending, abandoned)

And I hereby appoint as principal attorneys: Robert B. Murray, Reg. No. 22,980; Charles M. Marmelstein, Reg. No. 25,895; George E. Oram, Jr., Reg. No. 27,931; Douglas H. Goldhush, Reg. No. 33,125; David T. Nikaido, Reg. No. 22,663; Monica Chin Kitts, Reg. No. 36,105; Richard J. Berman, Reg. No. 39,107; King L. Wong, Reg. No. 37,500; James A. Poulos, III, Reg. No. 31,714; Murat Ozgu, Reg. No. 44,275; Bradley D. Goldizen, Reg. No. 43,637; N. Alexander Nolte, Reg. No. 45,689; Robert K. Carpenter, Reg. No. 34,794; Gregory B. Kang Reg. No. 45,273; and Rustan Hill Reg. No. 37,351.

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

(See Note C on back of this page)

Full name of sole or first inventor Marc Brison

Inventor's signature _____

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Date